

# User Manual of smart energy management and monitoring system

## Group 51

Smart Energy management and monitoring system is a standard-alone application without database. Following are the steps to use the software. Following are the steps to use the software.

1. Enter "java -jar smartEnergy.jar" in command line to configure the software.

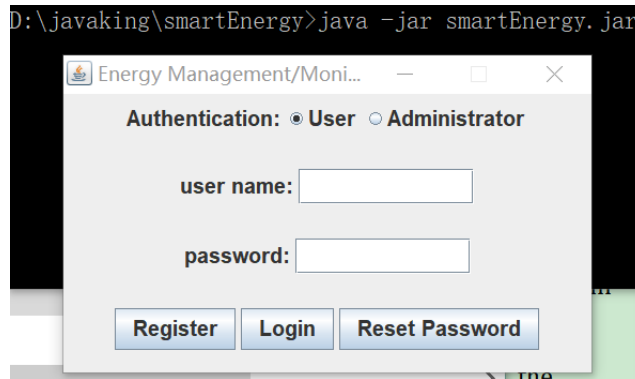


Figure 1

2. The page showed above is the main page of the software, users and administrators can register, log in and reset password through this page.

### 3. Instruction for users

- 1) New user needs to enter their user name, user password to register.

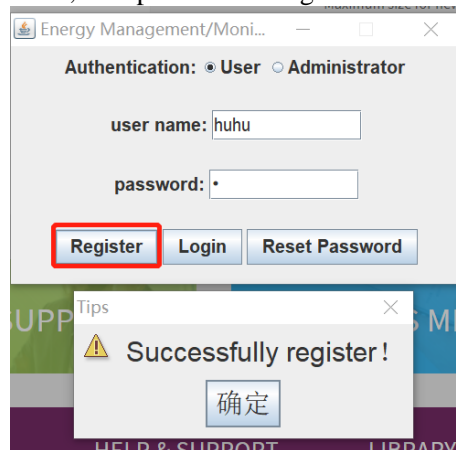


Figure 2

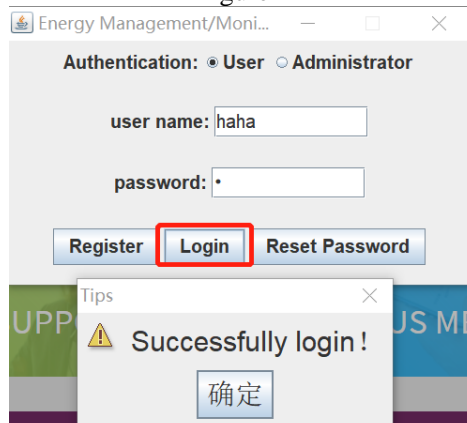


Figure 3

- 2) After user successfully log in the system (Figure 3), the user's consumption of gas and electricity will be shown. If the consumption is lower than the budget you set, the green light will be shown, on the contrary, if the consumption is higher than the budget, the light will turn red(Figure 4).

Welcome haha!

User Name:haha  
User ID:8d9d8c756bbe40d896566ecd12a2abd6

Electricity Budget:(£)1.0      Gas Budget:(£)100.0  
Updated eletricity usage:(in Kwh) 0083      Updated gas usage:(in Kwh) 0017

■ Current Electricity Cost:(£)1826.0      ■ Curreny Gas Cost:(£)75.0

Time	Used
Sat Jun 02 00:14:44 C...	0
Sat Jun 02 00:14:47 C...	2
Sat Jun 02 00:17:01 C...	0
Sat Jun 02 00:17:04 C...	1
Sat Jun 02 00:17:07 C...	0
Sat Jun 02 00:17:10 C...	2
Sat Jun 02 00:17:13 C...	1
Sat Jun 02 00:17:16 C...	2

Time	Used
Sat Jun 02 00:14:44 C...	1
Sat Jun 02 00:17:01 C...	8

☒ Daily      ☐ weekly      ☐ Monthly

Figure 4

- 3) Users can press different button to [1] change electricity/gas budget by entering a budget(Figure 5); [2]Check the consumptions in day, week and month; [3] Send monthly consumption to the administrator(Figure 6); [4] check tariff (price per Kwh) (Figure 7); and [4] check the bill of the consumption in this month(Figure 8).

Welcome haha!

User Name:haha  
User ID:8d9d8c756bbe40d896566ecd12a2abd6

Electricity Budget:(£)1.0      Gas Budget:(£)100.0  
Updated eletricity usage:(in Kwh) 0083      Updated gas usage:(in Kwh) 0017

■ Current Electricity Cost:(£)1826.0      ■ Curreny Gas Cost:(£)75.0

Time	Used
Sat Jun 02 00:14:44 C...	0
Sat Jun 02 00:14:47 C...	2
Sat Jun 02 00:17:01 C...	0
Sat Jun 02 00:17:04 C...	1
Sat Jun 02 00:17:07 C...	0
Sat Jun 02 00:17:10 C...	2
Sat Jun 02 00:17:13 C...	1
Sat Jun 02 00:17:16 C...	2

Time	Used
Sat Jun 02 00:14:44 C...	1
Sat Jun 02 00:17:01 C...	8

☒ Daily      ☐ weekly      ☐ Monthly

输入

?

Please input Budget

Figure 5

Welcome haha!

User Name:haha  
User ID:8d9d8c756bbe40d896566ecd12a2abd6

Electricity Budget:(£)1.0  
Updated eletricity usage:(in Kwh) 0083  

Current Electricity Cost:(£)1826.0

Change Electricity Meter Budget

Gas Budget:(£)100.0  
Updated gas usage:(in Kwh) 0017  

¥75.00

Curreny Gas Cost:(£)75.0

Change Gas Meter Budget

Time	Used	Time	Used
Sat Jun			
Sat Jun			
Sat Jun			
Sat Jun			
Sat Jun			
Sat Jun			
Sat Jun			
Sat Jun			

Email Service System

The system has Send your monthly consumption to the administrator!

确定

☒ Daily
☐ weekly
☐ Monthly

Send Monthly consumption

Check Tariff(price per kWh)

Receive bill

Back to Mainpage

Figure 6

Welcome haha!

User Name:haha  
User ID:8d9d8c756bbe40d896566ecd12a2abd6

Electricity Budget:(£)1.0  
Updated eletricity usage:(in Kwh) 0083  

Current Electricity Cost:(£)1826.0

Change Electricity Meter Budget

Gas Budget:(£)100.0  
Updated gas usage:(in Kwh) 0017  

¥75.00

Curreny Gas Cost:(£)75.0

Change Gas Meter Budget

Time	Used	Time	Used
Sat Jun 02 00:14:44 C...	0		
Sat Jun 02 00:14:47 C...	2		
Sat Jun 02 00:17:01 C...	0		
Sat Jun 02 00:17:04 C...	1		
Sat Jun 02 00:17:07 C...	0		
Sat Jun 02 00:17:10 C...	2		
Sat Jun 02 00:17:13 C...	1		
Sat Jun 02 00:17:16 C...	2		

Tariff

Electric Tariff:22.0  
Gas Tariff: 3.0

确定

☒ Daily
☐ weekly
☐ Monthly

Send Monthly consumption

Check Tariff(price per kWh)

Receive bill

Back to Mainpage

Figure 7

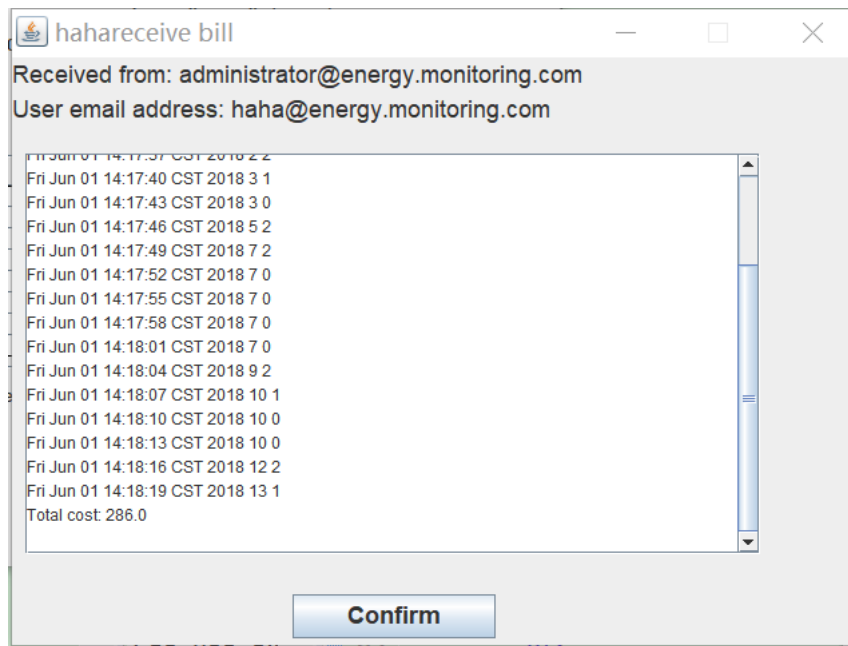


Figure 8

- 4) Once a user enters the page to check his detailed consumption, the usage will be refreshed regularly even if the user opens other pages of the system. The refreshing process will stop only when the system is shut down

#### 4 Instruction for administrators of the smart energy system

- 1) Administrators are not allowed to register on their own. They can use default username and password (admin,111) to enter the system(Figure 9).

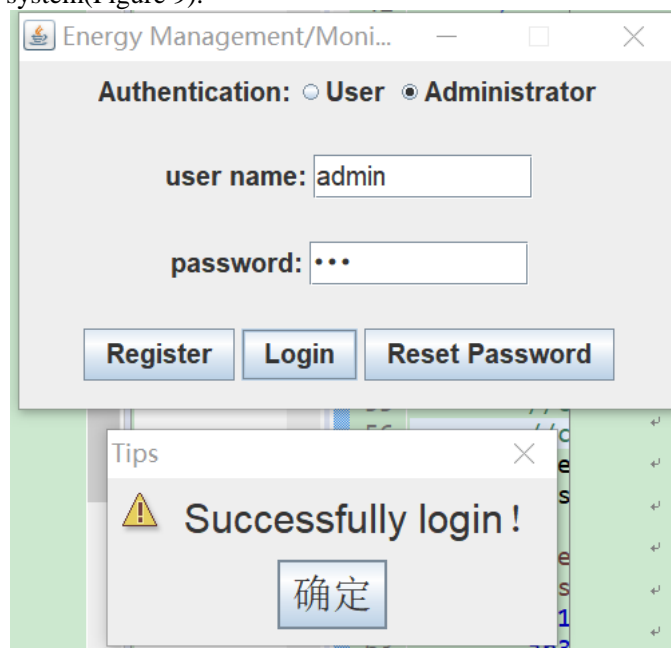


Figure 9

- 2) After they log in successfully, they can [1] check and edit the electricity and gas tariff(Figure 10,11); [2] check the list of users and [3]Remove user(delete user information from file); [4] check the detail of consumers(Figure 12); [5] help users to register by entering their username and password(Figure 13);[6] receive meter readings, generate bills and then send back to users(Figure 14).

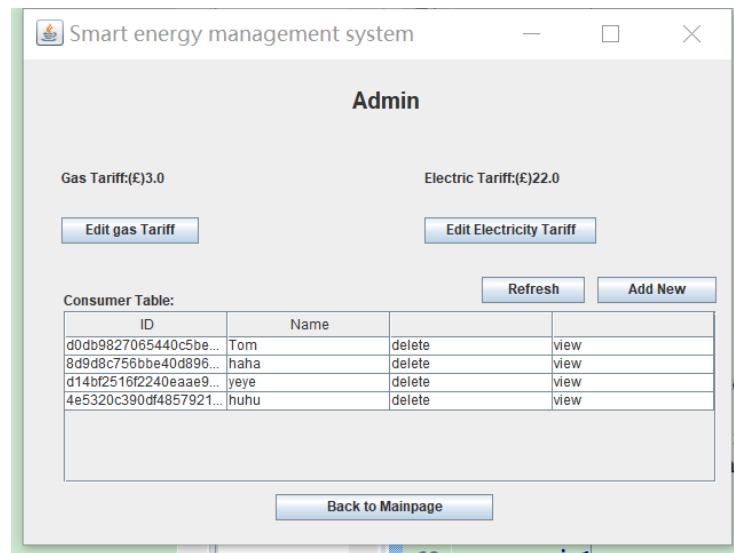


Figure 10

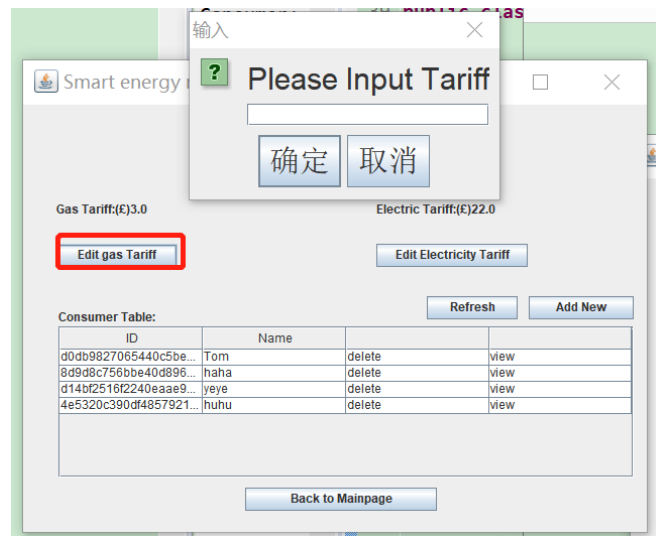


Figure 11

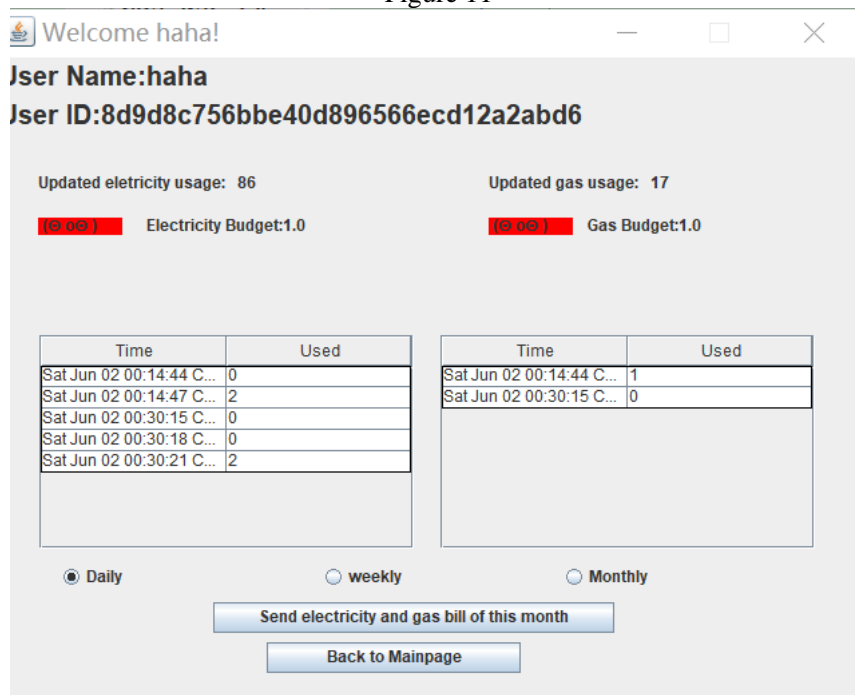


Figure 12

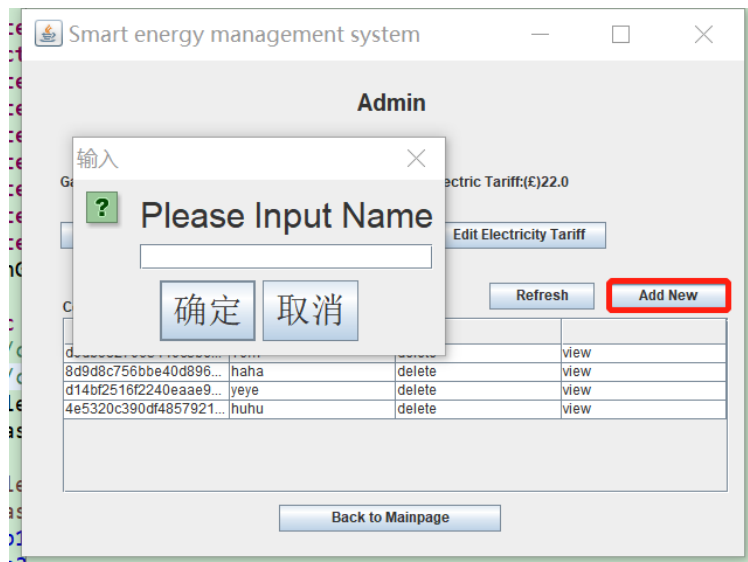


Figure 13

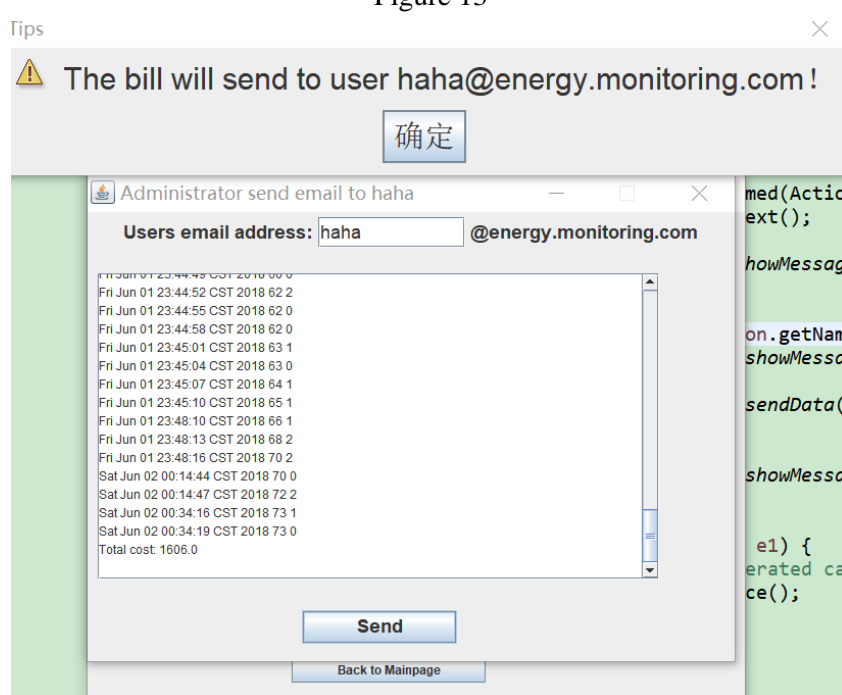


Figure 14